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研究課題名（和文）効果的な第二言語習得の為の英語タスクの選択による動機と言語出力関係

研究課題名（英文）The Interaction of Topic Choice and Task-Type in the Japanese High School EFL Classroom

研究代表者

サーマン　ジョン・フィリップ（Thurman, John）

小樽商科大学・言語センター・教授

研究者番号：９０４３２５８３

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研究成果の概要（和文）：研究の方法として、2種類のタスク（Descriptive & Narrative）を作成した。そして学生にはひとつのタスクに対して、2種類(選択肢なしとトピックの選択肢あり)を設定した。学生は併せて4回タスクを行い、モチベーションと第二言語の出力（Accuracy, Complexity, Fluency）の変化についても調べた。Task InterestとSelf-efficacy(モチベーション)の場合は、選択レベルⅡが最も高かった。また、syntactic ComplexityとlexicalComplexityとFluency(第二言語の出力)は選択レベルⅡが最も高かった。

研究成果の概要（英文）：For this research, I studied the interaction of motivation (Task Interest and Task Self-efficacy) and oral conversation output (Accuracy, Complexity, Fluency) with the level of tasks topic choice a students has. For this research, I collected data at a high school in Sapporo, Hokkaido using two different types of tasks; descriptive and narrative with two different level of choice; where the student does the task topic decided by the teacher (No Choice) and where the student can choose from amongst three different topic of the same kind of task (Limited Choice).
The after-task survey data results for the motivation of the students to conduct the task, showed no significant differences between the levels of choice, although the limited level was somewhat greater. Oral output data showed greater syntactic Complexity for the Limited Choice (descriptive) task and greater lexical complexity for the Limited Choice (narrative) task. There was also greater Fluency for the descriptive task.

研究分野：　motivation, task-based language teaching

キーワード：　TBLT　motivation　accuracy　complexity　fluency　choice　high school　japan

１．研究開始当初の背景

INTRODUCTION

For this research, I was able to conduct surveys and experimental teaching methods in a high school. My belief is that the motivation of the students to conduct a task can be enhanced by increasing the choice available to the student in a pre-task task topic selection chance and that this increase in students' motivation can have positive effects on students' oral output, as gauged by accuracy, complexity, and fluency in the Task-based Language Teaching (TBLT) (Long, 2015) class session.

I have always been interested in the motivation a student brings to the language learning classroom. After studying different theories, Dr. David Beglar at Temple University, about a decade ago, suggested I try to relate the students' increase in motivation utilizing increased choice in the Task-based language teaching environment as a topic of my dissertation. Because of this, I decided to utilize the Self-determination Theory (SDT) (Deci & Ryan, 1985 2000, Ryan & Deci, 2000) of motivation because it operationalizes choice as part of the construct of intrinsic motivation.

I conducted that research for my dissertation (Thurman, 2008, 2013), and found that when choice was introduced as a pre-task implementation method, that the students' *Task Interest* and *Task Self-Efficacy* statistically significantly increased as a psychological construct when choice was part of the treatment, compared to when there was no choice afforded to the students. In addition, students' *Task Complexity*, operationalized as a type-token ratio statistic, increased statistically significantly when choice was part of the treatment, compared to when there was no choice afforded to the students. Interestingly, the students' *Task Interest* and *Task Self-Efficacy* decreased, albeit statistically non-significantly, when complete choice of task topic was given to the students, as compared to when the students could choose from three different task topics for the same task type.

This original research was conducted in the university setting with university first-year students as participants. From then. I had always wanted to expand this research thread to different environments. I was able to do this, with the help of Mr. Tomo Sasao of Sapporo Keihoku Shogyou High School.

For this research, as detailed in this paper, I first contacted a high school in order to conduct the research. Then, with the permission of the teacher, the students, and the high school, I conducted the research over a month's time. The students were very cooperative and the teachers who took part in the research were very helpful. I next analyzed the data using SPSS to calculate the differences between the treatments.

Supposing that when choice is involved and that greater levels of affect may result, the question now is whether that would play a role in influencing the attentional resources a learner may utilize when conducting a task, and therefore, would have a positive influence on the complexity of the oral output of the students. Some research in the psychological field may help to answer this question.

Dember, Galinsky, and Warm (1992) found that participants were more vigilant (in detecting bar flashes on a computer screen) when they were told that they had a choice of a difficult or easy task compared to those who had no choice of the difficulty of the task, even though there was no actual difference between the two tasks. Vigilance requires a high level of attention and this study postulated that it was possible choice may have had an influence upon the allocation of attentional resources.

Derryberry and Tucker (1994) made a strong case for the connection between motivation and the allocation of attention. In their paper, they claimed that “motivational processes recruit attentional mechanisms to adaptively regulate perceptual and conceptual processes” (p. 168). In this case, motivational processes in part control attention which can influence the direction (spotlight) and breadth (zoom lens) of attention. The breadth of attention is the working memory, which, according to Robinson (2001a), is important in the learning of a second language. Derryberry and Tucker also stated that attention to local features requires left-brain usage but that attention to global features requires the right-brain. However, anxiety can enhance left-brain processing, bringing attention to local features, which may not meet the needs of the task. A recent definition of a task (Samuda & Bygate, 2008) includes a holistic dimension, which attention to local features may not augment.

２．研究の目的

The Outline of This Research

The independent variable in this paper is the two levels of choice–the no choice of topic treatment in which the topic was pre-selected by the teacher, and the limited choice of topic treatment in which the students conducted the same type of task but could chose one task topic from amongst three topics preselected by the teacher. The type of the task does not change.

The dependent variables, mentioned previously, are, for Study 1, *Task Interest* and *Task Self-efficacy*, from survey data. These two variables are based on the factor analysis conducted on the survey when it was utilized in my dissertation

research. For Study 2, there are three dependent variables; Accuracy, *Complexity*, and Fluency. For this study, *Accuracy* will be assessed by the number of correct T-units and the ratio between the number of correct T-units to the number of T-units. *Complexity* will be assessed by ratio of S-nodes to T-units for syntactic complexity, type-token ratio and type-token ratio with a square root correction, also known as Guiraud's ratio, for lexical complexity, and turns and words per turn for interactional complexity. Lastly, *Fluency* will be assessed by word count. (For comparison, my dissertation used error-free clauses to assess *Accuracy*, type-token ratio only to assess *Complexity*, and total word count to assess *Fluency*.)

Research Questions

Study 1

The primary purpose of Study 1 is to examine the participants' task interest and task self-efficacy.

Research Question 1: To what degree does the level of task interest change across the levels of choice?

Hypothesis 1: It is hypothesized that *Task Interest* will increase significantly when choice is available. This hypothesis is based on studies comparing the presence and absence of choice when adults are engaged in a task.

Research Question 2: To what degree does the level of *Task Self-efficacy* change across the levels of choice?

Hypothesis 2: It is hypothesized that task self-efficacy will increase significantly when more choice is available. This hypothesis is based on studies comparing the presence and absence of choice when adults are engaged in a task and that more control of the environment increases the ability to do a task. Other than Thurman (2008), there is no data showing how the level of self-efficacy will change in response to different levels of choice, as there is for task interest. There may be a relation, however, because interest and self-efficacy are both affective constructs.

Study 2

The primary purpose of Study 2 is to examine the students' language production from a qualitative perspective. In this study, the conversations that occurred while participants were engaged in the tasks in this study were recorded, transcribed, and coded for occurrences of accuracy, complexity, and fluency.

Research Question 1: To what degree does the level of *Accuracy* change across the levels of choice?

Hypothesis 1: It is hypothesized that accuracy will increase significantly when choice is available. This hypothesis is based on studies comparing the presence and absence of choice when adults are engaged in a task requiring high levels of attention (e.g., Dember et al., 1992).

Research Question 2: To what degree does the level of *Complexity* change across the levels of choice?

Hypothesis 2: It is hypothesized that complexity will increase significantly when more choice is available. This is hypothesized because it is possible when choice is introduced in the implementation stage of a task, attentional resources may be freed and allocated towards complexity (e.g., Dember et al., 1992).

Research Question 3: To what degree does the level of *Fluency* change across the three levels of choice?

Hypothesis 3: It is hypothesized that fluency will increase significantly when more choice is available because increases in task interest caused by the introduction of choice can positively affect fluency. This could be an effect of an increased willingness to communicate In addition, there may be a lessening of anxiety with choice causing greater fluency (total number of words produced in this paper).

３．研究の方法

METHOD

Participants

The participants were 158 11th graders, divided amongst four classes. Each class conducted treatments four times. Each class conducted treatments four times. These participants were located in a high school where the research experiments took place. The classes were labelled 2B (N = 39; Female = 28, Male = 11), 2C (N = 40; Female = 30, Male = 10), 2D (N = 39; Female = 28, Male = 11) and 2F (N = 40; Female = 29, Male = 11).

The Variables in This Study

Dependent Variables

The variables for this study are based on past research. For Study 1, the variables derive from the dissertation research I did. After conducting a factor analysis of the survey data at that time, it came out that there were two dependent variables with the survey I used then and the now I used for this research. First, *Task Interest* was factored out from Items 1, 2, 5, 6, 7, 9, 10 and 11 on the after-task survey. For *Task Self-efficacy*, Items 3, 4, 8 and 12 contributed to this factor.

For Study 2, there are three dependent variables used in assessing the oral output of the students. First, there is *Accuracy*, which is assessed by the number of correct T-units and the ratio between the number of correct T-units to the number of T-units. Second, *Complexity* will be assessed by ratio of S-nodes to T-units for syntactic complexity, type-token ratio and type-

token ratio with a square root correction, also known as Guiraud's ratio, for lexical complexity, and turns and words per turn for interactional complexity. Lastly, *Fluency* will be assessed by word count. (For comparison, my dissertation used error-free clauses to assess Accuracy, type-token ratio only to assess Complexity, and words per turn to assess Fluency.)

There was one independent variable of interest for this research. This is the level of choice. For this variable, there are two levels. The first level is the *No Choice* treatment. In this treatment, the students conducted the task of which the topic was already chosen by the teacher and not the student. For the next level of choice, the students can choose amongst three different task topics of the same kind of task, a descriptive task or a narrative task. This is the *Limited Choice* level of choice. Lastly, although I did the comparison in my dissertation, for this research, I will not compare the different types of tasks.

Materials

Task Materials

Task Materials Used for the Treatment Sessions

For the descriptive task, the students conducted a task from Longman's Children's Picture Dictionary With Sings and Chants by Carolyn Graham (2002). The topics for the narrative task were taken from simple line-dean cartoons.

After-task Survey

A 12-item after-task survey was administered each time that the students finished the task for each round. Some of the items were from published sources and some were originally written for this study.

English translations of these items and their sources are shown in Table 1. Some of the survey items were written originally for this study, some were taken from original Japanese research, and some were garnered from sources in English. The questions from Japanese sources were also slightly modified for this study.

Table 1
After-task Survey Items and Their Sources

Item 1. I liked this task. (original item)
Item 2. I learned from this task.
Item 3. I told my feelings to my partner while doing this task.
Item 4. I talked with my partner without undue silence.
Item 5. I cooperated with my partner while doing this task.
Item 6. I enjoyed doing this task. (original item)
Item 7. I want to do more tasks like this.
Item 8. This task was difficult.
Item 9. I used a lot of time doing this task.
Item 10. I did the task to the best of my ability.
Item 11. I was able to concentrate while doing this task.
Item 12. I am satisfied with my performance doing this task.)

Response formats were also piloted. Although different levels of responses were experimented with, a five-level response category was selected: 1 = *mattaku so omowanai* (I do not think so at all); 2 = *dochiraka to ieba so omowanai* (If I were to say, I do not think so); 3 = *dochira tomo ienai* (I can not say either way); 4 = *dochira to ieba so omou* (If I had to say, I think so); 5 = *sono toori dato omou* (That is {exactly} what I think).

Procedures

In the case of the data sessions with a *Limited Choice* of topic, a single paper with the three task topics printed on it was distributed to the student who would make the choice. This student then chose the topic and the teacher gave this student the task in a large envelope. Upon a signal, the students took the papers out of the envelope and gave the two pages of the missing information to his or her partner and kept the page with the complete information. For the data sessions with the *No Choice* of topic, the students conducted the task given to them by the teacher.

To be fairer to the students, each task was conducted twice during each treatment session, each time with different topics. Students were asked not to use dictionaries, nor to look at each other's papers. To be fairer to the students, the students conducted a task four times, twice each session, over the two treatment sessions. However, the data from the second time the students performed the task was utilized for the oral production data analysis in Study 2 in order to control for planning.

When the students were ready to conduct the task, they were asked to turn on the recording software in the computer and to say their name. After this, the students were asked if there were any problems in recording or hearing their partner through the headphones. For those who had no problems, they were asked then to conduct the task. This was usual for the sessions. If there were any students who had problems with the hardware, the teachers worked to fix the problem.

The Design of this Study

The data collection session are detailed in Table 2. This sequencing, both in the order of the task-type and the order of the level of choice, matches a 4 x 4 orthogonal latin square design.

Table 2
Task Sequencing for the Four Classes

Class	**2B**	**2C**	**2D**	**2F**
DTNC	Nov. 26	Nov. 12	Dec. 19	Dec. 10
DTLC	Dec. 10	Nov. 26	Nov. 16	Dec. 17
NTNC	Dec. 17	Dec. 10	Nov. 21	Nov. 12
NTLC	Nov. 12	Dec. 17	Dec. 12	Nov. 26

Note: All dates are from 2012.

For the calculation of the oral production data, only the first two minutes of the

conversation after it started was used for assessing the oral output to be more similar across all pairs in assessing their oral output.

Lastly, in this research, the students used the Language Lab where enough computers were available for each student to control one. The students were asked to record their conversations for the purpose of collecting the data for that needed for the oral output section of this research in Study 2.

4．研究成果

DISCUSSION

Study 1

To summarize the results, the dependent variables from the survey, *Task Interest* did not show any statistically significant differences between the two levels of choice, the *No Choice* level of choice and the *Limited Choice* level of choice. This was unexpected because in the original research with university students, both of the treatments for the descriptive task and the narrative task for the *Limited Choice* level of choice were statistically significantly greater compared to the *No Choice* level of choice.

For Task Self-efficacy, the results were similar with no statistically significant differences between the two levels of choice for *Task Self-efficacy*. In the original research with university students, the narrative task had statistically significant greater results for the *Limited Choice* level of choice compared to the *No Choice* level of choice.

It would be hard to speculate upon the differences here. However, one large difference between the original research and this research was that do this research, the students needed to manipulate a computer in order to record their conversations of the data for Study 2. It is possible that the worries about manipulating the computer and the ability to manipulate the computer might have been reflected in these two constructs for motivation.

Study 2

Accuracy

For the *t*-tests for *Accuracy*, there were no statistically significant differences between the two levels of choice in the two types of tasks. Interestingly, the *Accuracy* for the *No Choice* level of choice for the descriptive task was very close to being statistically significantly greater when compared to the *Limited Choice* level of choice.

Complexity

For the dependent variable of *Complexity*, there were three constructs, syntactic complexity, lexical complexity, and interaction all complexity. First, syntactic complexity. This variable was statistically significantly greater for the *Limited Choice* level of choice compared to the *No Choice* level of choice. Indeed, the effect size as measured by Cohen's *d* is .92, which indicates a very large effect size. This variable was not assessed in the university research so there is no comparison with that. However, this is very encouraging in that syntactic complexity helps to expand the learners' interlanguage. Through greater syntactic complexity, learners test their knowledge to an extra height, helping the students to acquire greater overall complexity.

For lexical complexity, there was statistically significantly greater lexical complexity for the *Limited Choice* level of choice compared to the *No Choice* level of choice, only for the narrative task. There were no statistically significant differences for the descriptive task between the two levels of choice. There was almost a medium effect size for the type-token ratio assessment, $d = .47$, but there was a medium effect size for the Guiraud's ratio, $d = .53$.

It is possible that in Levelt's (1989) model of language production, the conceptualizer may be effected by increased attentional control enhanced by an increase in affect promoted by topic choice.

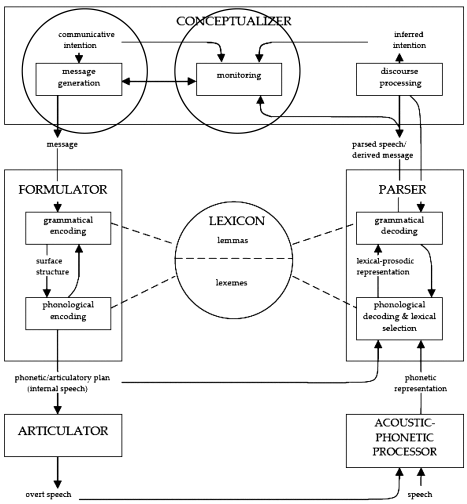

Figure 2: Levelt's Model of Language Production.

The figure above shows Levelt's model. Circled are the areas where this research may have had an effect. It is possible that with greater attention, the pool of vocabulary in long term memory was more open to be utilized in the working memory for message generation. It is also possible that with monitoring may also have been effected by the increased motivation introduced by choice.

For interactional complexity, turns and words per turn, there was no statistically significantly differences for either level of choice for either task.

Fluency

Of this research at the high school, the Limited Choice level of choice was statistically

significantly greater compared to that of the No Choice level of choice. Again, as in syntactic complexity, the effect size was somewhat large, d = .86. This indicated that the students are willing to use a greater number of words when the only difference was the presence of topic choice. This is one of the tenants of Task-based Language Teaching, in that the tasks are designed so that the students use the language orally as much as possible to complete the task.

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５．主な発表論文等

（研究代表者、研究分担者及び連携研究者には下線）

〔雑誌論文〕（計　　件）

〔学会発表〕（計　　件）

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〔その他〕
ホームページ等

６．研究組織
(1)研究代表者
サーマン　ジョン・フィリップ（Thurman, John）

小樽商科大学・言語センター・教授

研究者番号：90432583

(2)研究分担者
（　　）

研究者番号：

(3)連携研究者
（　　）

研究者番号：